

KOPTYUG, V.A.; REZVUKHIN, A.I.; ZAYEV, Ye.Ye.; KULIK, Yu.N.;

Complexes of aromatic hydrocarbons with metal halides and hydrogen halides. Part 1: Nuclear magnetic resonance spectra of -sitylene complex with aluminum and hydrogen bromides. Zhur. ob. khim. 34 no.12:3999-4003 D '64 (MIRA 18:1)

1. Sibirskoye otdeleniye AN SSSR, Novosibirskiy institut organicheskoy khimii i Institut khimicheskoy kinetiki i goreniya.

ZAYEVA, G.N.

Use of computing methods in determining vapor tension and the volatility of substances in industrial toxicology. Toks. nov. prom. khim. veshch. no.6:150-164 '64.

Approximate calculation of maximum permissible concentrations of chemical compounds of a homologous series. Ibid.:165-180
(MIRA 18:4)

ZAYEVA, G.N.; FEDOROVA, V.I.

Functional and pathomorphological changes within the organism
during the inhalation action of p-nitroanisole and and
p-aminoanisole. Toks.nov.prom.khim.veschch. no.4:91-108 '62.
(MIRA 16:1)

1. Sotrudnik patologoanatomiceskoy laboratorii Instituta
gigiyeny truda i professional'nykh zabolеваний AMN SSSR (zav. -
prof. P.P.Dvizhkov) (for Fedorova).
(ANISOLE--TOXICOLOGY)

ZAYEVA, G.N.; FEDOROVA, V.I.

Experimental study of aminasine as an industrial poison. Toks.
nov.prom.khim.veschch. no.4144-166 '62. (MIRA 1611)
(CHLORPROMAZINE—TOXICOLOGY)

ZAYEVA, G.N.; TOLGSKAYA, M.S.

Data on the substantiation of maximally permissible concentrations of α -amino-p-metoxianisole, α -nitro-p-metoxianisole and p-metoxianisole. Toks.nov.prom.khim.veshch. no.4:108-117 '62.

(MIRA 16:1)

(ANISOLE—TOXICOLOGY)

SHIROKOV, Sergey Ivanovich, inzh. [deceased]; Prinimali uchastiye:
ZAYETS, V.N., dozent; GUREVICH, M.I., dozent. STADNIKOV, G.D.,
ingzh., retsenzant; SHUL'KIN, L.O., inzh., retsenzant; DURJEA,
N.A., tekhn.red.

[Production of boilers] Kotel'noe proizvodstvo. Izd.3. Moskva,
Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 280 p.
(MIRA 14:3)

(Boilers)

SOV/124-58-3-3026

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 68 (USSR)

AUTHOR: Zayets, V. N.

TITLE: Analysis of Existing Methods of Heat-exchange Calculations
for Small-size Furnaces (Analiz sushchestvuyushchikh metodov
rascheta teploobmena v topkakh s malym topochnym ob'yemom)

PERIODICAL: Tr. Ural'skogo politekhn. in-ta, 1956, № 61, pp 135-142

ABSTRACT: Bibliographic entry

Card 1/1

ZAYEV, A.I.L.

"Lengthy paresis of palatal velum in horses,"

SO: Vet. 27 (4) 1950, p. 40
Central Vet. Infirmary, VS

SOV/29-59-3-19/23

24(3)
AUTHOR: Zayev, N., Engineer

TITLE: Electrets (Elektrety)

PERIODICAL: Tekhnika molodezhi, 1959, Nr 3, pp 37-39 (USSR)

ABSTRACT: In this article the author reports on electrets - the electric twins of magnets. Already Faraday believed that substances can be electrified and maintained in this state for a longer period. Since conductive substances are not suited for this purpose, substances had to be investigated which are not conductive, namely, the so-called dielectrics, to which also Carnauba wax and some other resins belong. Electrets are obtained as soon as the dipoles in the substances are oriented. For the production of electrets a field strength of the order of 5000-20000 v on a wax layer 1 cm thick or on a resin layer is used between the electrodes. In order to maintain the oriented dipoles in this position, the molten dielectric is cooled in the electric field. Nevertheless, this state cannot be maintained for a long time since it is destroyed by the thermal motion of molecules, that is to say, the electret is extinguished. An electret can be preserved for a longer time only in closed state. It was found that

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electrets lose their charge not equally but abruptly. A similar process takes place also in magnetization and demagnetization of constant magnets. The charge of electrets may be determined according to the so-called surface density, which amounts to

$5 \cdot 10^{-9}$ Cb approximately with the best electrets. In a few cases it was possible to obtain for a short time a density of up to $2 \cdot 10^{-8}$ Cb/cm². Recently a method was devised whereby electrets are obtained without melting of the dielectrics. The Bulgarian scientist Nadzhakov found that sulphur can be converted into a solid electret if placed in an electric field and exposed to strong illumination. Further, it was found that dielectrics need not necessarily contain dipole molecules. The Soviet scientists Skanavi and Gubkin made electrets of special ceramic substances without melting. Nevertheless, much remains still to be explained in the behavior of electrets. In practice electrets were used first as sources of an electric field in electric measuring instruments for the measurement of electricity and voltage. The application of electrets in the telecommunication technique is a great achievement of Japanese scientists. In the production of electrets they may be given any

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shape whereby the zones of the electret state accurately correspond to the electrode shape. At present, this property of electrets is being studied in order to make use of it in the printing method. The size of the electric field of electrets depends on the degree of humidity of the surrounding medium. According to this property electrets are used in instruments for humidity measurement. Recently West-German physicists designed dosimeters for the measurement of atmospheric radioactivity. It is not impossible for electrets to be used as dust collectors in filters. A direct-current generator with electrets was designed by the American scientists Vider and Kaufman. A similar generator was constructed by the Moskovskiy institut elektrotekhnicheskoy promyshlennosti (Moscow Institute for the Electrotechnical Industry). An alternating-current generator was designed by a laboratory of the Fizicheskiy institut imeni Lebedeva Akademii nauk SSSR (Institute of Physics imeni Lebedev of the Academy of Sciences USSR). By means of electrets mechanical energy can be converted into electric energy in a new way. Yet the capacity of these generators is still unsatisfactory due to insufficient surface density of the electrets. An increase in density by two orders only would be enough for these generators

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Electrets

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to become strong competitors of electromagnetic generators.
Academician A. G. Iosif'yan, Real Member, Academy of Sciences,
Armyanskaya SSR, believes that electrets undoubtedly will have
a great future. There are 9 figures.

Card 4/4

ZAYEV, N., inzh.

Electrets are a new frontier of technology. Izobr. i rats.
no. 4:28-31 Ap '61. (MIRA 14:4)
(Electrets)

MYAZDRIKOV, Oleg Alekseyevich; MANOYLOV, Vladimir Yevstaf'yevich;
ZAYEV, N.Ya., retsenzent; KAZARNOVSKIY, D.M., red.;
ZHITNIKOVA, O.S., tekhn. red.

[Electrets] Elektry. Moskva, Gosenergoizdat, 1962. 97 p.
(MIRA 16:1)

(Electrets)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964030003-5

ZAYEV, N.Ye., inzh.; KUZ'MINA, R.P., inzh.

Some properties of charged solid dielectrics. Elektrotehnika
(MIRA 18:5)
36 no.4:41-43 Ap '65.

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964030003-5"

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964030003-5

ZAYEV, N.Ye., inzh.; DOKUCHAYEV, V.I., inzh.

Behaviour of the lines of force of a rotating electromagnet.
(MIRA 18:6)
Elektrotehnika 35 no.11:64 N '64.

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964030003-5"

ZAYEV, P.P.

Tillage without turning the soil. Pochvovedenie no.1:15-25 Ja '57.
(MLRA 10:5)

1.Leningradskiy sel'skokhozyaystvennyy institut.
(Tillage)

ZAIKOV, Petr Petrovich, kand.sel'skokhoz.nauk; ZHEZHEL', Nikolay Grigor'yevich, doktor sel'skokhoz.nauk; FEDOSENKOVA, Marianna Petrovna, kand.sel'skokhoz.nauk; IVASHKINA, L.A., red.; CHUMAYEVA, Z.V., tekhn.red.

[General agriculture] Obshchee zemledelie. Izd.2., perer. i dop. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 367 p.
(MIRA 13:11)

(Agriculture)

ZAYEV, PETR PETROVICH

ZAYEV, Petr Petrovich, kand.sel'skokhozyaystvennykh nauk; ZHEZHEL', Nikolay
Grigor'evich, doktor sel'skokhozyaystvennykh nauk; VADOSBYVA,
Marianna Petrovna, kand.sel'skokhozyaystvennykh nauk; PETROV, N.P.,
red.; CHUHAYEVA, Z.V., tekhn.red.

[General agriculture] Obschhee zemledelie. Moskva, Gos.izd-vo
sel'khoz. lit-ry, 1957. 343 p. (MIRA 11:3)
(Agriculture)

ZAYEV, P.P.; TOLSTUKHINA, L.P.

How the use of moldboard plows and moldboardless plows affects
loamy turf-Podzolic soils and their microflora. Trudy Inst.
mikrobiol. no.7:49-58 '60. (MIRA 14:4)

1. Kafedra obshchego zemledeliya Leningradskogo sel'skokhozyay-
stvennogo instituta.
(SOIL MICRO-ORGANISMS) (TILLAGE)

ZAYEV, Petr Petrovich, prof.; ZHEZHEL', Aleksandr Aleksandrovich,
prof., KOROTKOV, Aleksandr Aleksandrovich, dots.;
FEDOSEYEVA, Marianna Petrovna, dots.; BELOVA, Zoya
Vasil'yevna, prepodavatel'; GOKHNER, L.M., red.;
BARANOVA, L.G., tekhn. red.

[General agriculture and soil science] Obshchee zemledelie
s pochvovedeniem. [By] P.P.Zayev i dr. Moskva, Sel'khoziz-
dat, 1963. 620 p. (MIRA 17:1)

1. Anapskiy sel'skokhozyaystvennyy tekhnikum (for Belova).

DZIZENKO, A. K.; ZAYEV, Ye. Ye.; YELYAKOV, G. V.; MOLIN, Yu. N.;
VOYEVODSKIY, V. V.

NMR spectra of genins from glycosides of Panax ginseng C. A.
Mey. Dokl. AN SSSR 156 no. 1:92-94 My '64. (MIRA 17:5)

1. Dal'nevostochnyy filial im. V. I. Komarova Sibirskogo
otdeleniya AN SSSR i Institut khimicheskoy kinetiki i
goreniya Sibirskogo otdeleniya AN SSSR. 2. Chlen-
korrespondent AN SSSR (for Voyevodskiy).

forms were determined. Acetone was present in small amounts. It is believed that the compounds contain α -enol forms at equilibrium with the ketone; this agrees with chemical data.

Compounds with branched substituents (β -isopropylacetylacetone and γ -tert-butyiacetyl-

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CIA-RDP86-00513R001964030003-5"

KOPTYUG, V.A.; REZVUKHIN, A.I.; ZAYEV, Ye.Ye.; MOLIN, Yu.N.

Structure of the complex of mesitylene with aluminum bromide and
hydrogen bromide. Izv. AN SSSR. Ser.khim. no.9:1700 S '63.
(MIRA 16:9)

1. Novosibirskiy institut organicheskoy khimii i Institut
khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya AN SSSR.
(Mesitylene) (Aluminum bromide) (Hydrobromic acid)

ZAYEV, Ya.Ye.; MOLIN, Yu.N.

Thermostatic control of a sample by means of a high-resolution
nuclear magnetic resonance spectrometer. Zav. lab. 31 no.8:970-
971 '65.
(MIRA 18:9)

1. Institut khimicheskoy kinetiki i goreniya Sibirskego otdeleiniya
AN SSSR.

ZAYEV, Ye. Ye.; SKUDEVSKAYA, G.I.; MOLIN, Yu.N.

Paramagnetic shifts in the nuclear magnetic resonance spectra
of Co(II) pyridinates. Zhur. strukt. khim. 6 no. 4:639-641 Jl-1g
'65 (MIRA 1965)

1. Institut khimicheskoy kinetiki i goreniiya Sibirskogo otdele-
niya AN SSSR, g. Novosibirsk. Submitted January 13, 1965.

1. ZAYEVA, D., DR.
2. USSR (600)
4. Furacilin
7. Investigation of furacilin action in anaerobic infection in experiments on laboratory animals. Latv. PSR Zin. Akad. Vestis 3, 1951

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

ZAYEVA, G.M.; FEDOROVA, V.I.

Toxicology of higher saturated monocatomic alcohols (n-hexyl, n-heptyl, n-octyl, n-nonyl and n-decyl). Toks. nov. prom. khim. veshch. no.5: 51-66 '63. (MIRA 17:9)

1. Sotrudnik patologoanatomicheskoy laboratorii Instituta gigiyeny tuda i professional'nykh zabolеваний AMN SSSR (zav. - prof. P.P. Dvizhkov) (for Fedorova).

L 18452-63 EPF(c)/EPR/EWP(j)/EWT(m)/BDS Pr-l₄/Pb-l₄/Pc-l₄ EH/MAY/WW/JW
ACCESSION NR: AT3004529 S/2948/61/000/003/0112/0117

AUTHORS: Zayeva, G. N.; Fedorova, V. I.

TITLE: Toxicity of 4-nitrobenzoylcyanacetic ether 69

SOURCE: AMN SSSR, Toksikologiya novykh promyshlennyykh khimicheskikh veshchestv, no. 3, 1961, 112-117

TOPIC TAGS: toxicity, 4-nitrobenzoylcyanacetic ether

ABSTRACT: The toxicity of 4-nitrobenzoylcyanacetic ether (NBCAE) was investigated via inhalation, peroral administration, and external application. Repeated daily 90-minute exposures of mice to NBCAE vapors of near saturation at 17-18°C for a 3-week period caused no ill effects. The peroral administration to mice of 5000 and 500 mg/kg NBCAE was fatal, while 50 mg/kg proved tolerable. The clinical picture of the fatal cases resembled HCN poisoning with symptoms of suffocation and disruption in the coordination of movements. On autopsy the striking feature was the bright red color of the organs and blood. Microscopical examination revealed a sharply defined edematous condition of the brain and a

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L 18452-63
ACCESSION NR: AT3004529

pronounced dystrophy of the fibers of the heart muscle. External application of NBCAE on the skin of rabbits produced no ill effects. It is concluded that the toxicity of NBCAE is due to the presence of CN groups and that the clinical and histological pictures indicate an interference in the oxidative processes of the cells, resulting in oxygen starvation. Orig. art. has: 3 pictures and 1 formula.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 21Aug63

ENCL: 00

SUB CODE: CH

NO REF SOV: 000

OTHER: 000

Card 2/2

ZAYEVA, G. N.

Cand Med Sci - (diss) "Materials on the toxicology of anisole derivatives." Moscow, 1961, 17 pp; (Academy of Medical Sciences USSR); 250 copies; price not given; (KL, 7-61 sup, 258)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964030003-5

KREMNEVA, S.N.; TIMOFEEVSKAYA, L.A.; ZAYEVA, G.N.

New chemical substances. Gig. truda i prof. zab. 4 no.2:60-61
F '60.

(PHARMACEUTICAL RESEARCH)

(MIRA 15:3)

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964030003-5"

ZAYEVA, G.N. (Moskva)

Comparative evaluation of the toxicity of anisole derivatives.
Gig. truda i prof. zab. 4 no.2:30-36 F '60. (MIRA 15:3)

1. Institut gigiyeny truda i professional'nykh zabolеваний
AMN SSSR.

(ANISOLE--TOXICOLOGY)

ZAYEVA, G.N.; BABINA, M.D.; FEDOROVA, V.I.; SHCHIRSKAYA, V.A.

Toxicological characteristics of polyvinyl alcohol, polyethylene,
and polypropylene. Toks. nov. prom. khim. vyeach. no. 5:136-149
'63. (MIHA 17:9)

1. Sotrudniki laboratorii promyshlennno-sanitarnoy khimii Instituta
gigiyeny truda i professional'nykh zabolovanii AMN SSSR (for Babina,
Shchirskaya.)

ZAYEVA, G.I.; TOLGSKAYA, M.S.

Comparative evaluation of the toxicity of some nitro and amino derivatives of the aromatic series (p-nitroaniline, 1-nitro-2,4-phenylenediamine, oxalyl-p-nitroaniline and 1-chloro-2,4-phenylenediamine). Toks. nov. prom. khim. veshch. no.7:138-157 '65.
(MIRA 18:9)

1. Patologoanatomiceskaya laboratoriya Instituta gigiyeny truda i professional'nykh zabolevaniy AMN SSSR (zav.- prof. P.P. Dvizhkov) (for Tolgskaya).

ZAYEVA, I.P.

Effect of chemical treatment on the biocoenoses of a wheat field.
Trudy Vses. est. ob-va 50:228-239 '65.

(MERA 18:5)

ZAYEVA, I.P.

Comparative analysis of noctuid moths (Lepidoptera,
Noctuidae) on wheat fields and fallows in Kustanay Province
of the Virgin Territory. Ent. oboz. 40 no.4:776-784 '61.
(MIRA 17:1)

1. Vsesoyuznyy institut zashchity rasteniy Vsesoyuznoy
akademii sel'skokhozyaystvennykh nauk imeni Lenina, Lenin-
grad.

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964030003-5

TULYAGANOV, P.D.; ZAYEVA, L.Ye.

Work of the Fergana Valley Pathological Society, Med, zhur, Uzb.
no.8:82-83 Ag '60. (MIRA 13:9)
(FERGANA VALLEY--PATHOANATOMICAL SOCIETIES)

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964030003-5"

ZAYEVA, S.I., T. G. SEMYKINA, T. I. PIROZHNIKOVA, T. V. POGOSOVA, AND N.V. ZHURAVSKAYA

"Anaerobic Phages," Trudy Moskovskogo oblastnogo instituta epidem., mikrobiol., i infekt. bolezney imeni Mechnikova (Transactions of the Moscow Oblast Institute of Epidemiology, Microbiology, and Infectious Diseases imeni Mechnikov), 3, 5-12, Sverdlovsk, 1943

ZAYEVA, S. P.

Zayeva, S. P. - "Test to show the effect of furacin on the irritants of early infections in experiments in vitro and in vivo," *Investiya Akad. nauk Latv. SSR*, 1948, No. 12, p. 49-52 (Resume in Latvian)

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

1. ZAYEVA, S., Dr.

2. USSR (600)

4. Infection

7. Investigation of furacilin action in anaerobic infection in experiments on laboratory animals. Latv. PSR Zin. Akad. Vestis 3, 1951

9. Monthly List of Russian Accessions, Library of Congress, January 1953, Unclassified.

ZAYEVA, S.P., doktor med.nauk

Treatment of malignant tumors with bacterial toxins. Vopr.klin.lich.
zlok.novoobraz., Riga 1:117-133 1953

(NEOPLASMS, ther.

bacterial toxins, review

(BACTERIA,

toxins, ther. of neoplasms, review

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964030003-5

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964030003-5"

ZAYEVA, S.P., doktor med.nauk

Microflora of the surface of the gastric mucosa in cancer and ulcer
of the stomach. Vopr.klin.lich.zlok.novoobraz., Riga 2:117-128 1955

1. Sektor onkologii (zav. - prof. doktor P.I. Stradyn') Instituta
ekperimental'noy meditsiny AN Latvianskoy SSR) (dir. prof. doktor
P.Ya. Gerke).

(STOMACH, neoplasms
bacteriol. of gastric mucosa (Rus))
(PEPTIC ULCER, bacteriology,
microflora of gastric mucosa (Rus))

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CIA-RDP86-00513R001964030003-5

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CIA-RDP86-00513R001964030003-5"

ZAYEVA, S.P., prof., ALEKSEYeva, L.N., kand.med.nauk; RATEMBERG, N.S., kand. med.nauk; KOPTELOVA, M.N., nauchnyy sotrudnik

Nitrofurans with properties of a wide-spectrum antibiotic; experimental study of furadonine a chemotherapeutic preparation. Urologia 22 no.6: 46-50 N-D '57. (MIRA 11:2)

1. Iz Instituta eksperimental'noy meditsiny (dir. - deystvitel'nyy chlen Akademii nauk Latviyskoy SSR P.Ya.Gerke) Akademii nauk Latviyskoy SSR.

(NITROFURANTION, ther. use
urinary tract dis.)

(URINARY TRACT, dis.
ther., nitrofurantion)

ZAYEVA, S.P., ALEKSEYEVA, L.Y., RATENBERG, N.S., KOPTELOVA, M.H.

Experimental studies on a new chemotherapeutic preparation furasidin.
Zhur.mikrobiol.epid. i imun. 29 no.7:10-15 Jl '58 (MIRA 11:8)

1. Iz Instituta eksperimental'noy meditsiny AN Latviyskoy SSR.
(YURAN DERIVATIVES.
furasidin, pharmacol. (Rus))

ZAYEVA, S.P., ALEKSEYEVA, L.N., RATENBERG, S.N., KOPTELOVA, N.N., MEDVE, K.K.
SPUHL, I.P.

Experimental studies on furazolidone. Zhur.mikrobiol.epid. i immun.
29 no.7:15-20 J1 '58 (MIRA 11:8)

1. Iz Instituta organicheskogo sinteza AN Latviyskoy SSR.
(PURAN, DERIVATIVES,
furazolidon, pharmacol. (Rus))

GRINSSTEYN, V.Ya. [Grinsteins, V]; MEDNE, K.K.; ZAYEVA, S.P.; STOLYAROV,
N.S.; VEVERIS, A.P.; GERMANE, S.K.; ALBERTA, M.A.; CRICALINOVICH,
G.A.; TRIMERE, V.A., ZELCHA, S.B. [Zelca, S.]

Tuberculastatic properties of mixed thiosemicarbazone guanyl-hydrazone 1,3-indandione, a representative of a new type of antitubercular substances. Dokl. AN SSSR 147 no. 5:1083-1095
D '62. (MIRA 16:2)

1. Institut organicheskogo sinteza i Institut eksperimental'noy i klinicheskoy meditsiny AN Latviiyskoy SSR. Predstavлено akademikom A.N. Nemzeyanovym.

(TUBERCULOSIS) (ANTIBIOTICS) (KETONES)

ACC NR: AP6026758

SOURCE CODE: UR/0197/66/000/007/0141/0143

AUTHOR: Zayeva, S. P.; Grigalinovich, G. A.

ORG: Institute of Organic Synthesis, AN LatSSR (Institut organicheskogo sinteza
AN LatSSR)

TITLE: Determining antibacterial properties of chemotherapeutic compounds using
luminescent microscopy

SOURCE: AN LatSSR. Izvestiya, no. 7, 1966, 141-143

TOPIC TAGS: chemotherapeutic compound, antibacterial agent, luminescent microscopy,
disease diagnosis, chemotherapy, luminescence, bacteria, antibiotic

ABSTRACT: A luminescent method has been developed that identifies both living
and dead cells with a fluorochrome acridine orange preparation. This
method can be modified for determining cell viability and for testing
antibacterial properties of chemical compounds. This method is as
sensitive as the serial dilution method. Of the many dyes tested,
fluorochrome AO was the most effective in distinguishing living,
transitional and dead cells which fluoresced green, yellow, and red
respectively when viewed under the phase-contrast microscope. The
dye was prepared in Krebs-Ringer solution 1:40,000 and was used in

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ACC NR: AP6026758

tests of antibiotics from the nitrofuran series against gram-negative
bacteria. [WA-50; C&E No. 11]

SUB CODE: 06/ SUBM DATE: 08Jan66/ ORIG REF: 003/ OTH REF: 003/

ZAYEVA, S.P.; GILLER, S.A.; GERMANI, S.K.; STRADYN', [Stradin, J.P.];
ALEKSEYEVA, L.N.; KRUZMETRA, L.V.; AL'BERTE, M.A.; AYZPURLETE,
I.F. [Aizpuriete, I.F.]; KALNBERG, R.Yu. [Kalnberg, R.J.]

Experimental study of furazolin (F-150), a new preparation of the
nitrofuran series. Zhur.mikrobiol., epid. i immun. 32 no.10:
17-20 O '61. (MIRA 14:10)

1. Iz Instituta organicheskogo sinteza AN Latviyskoy SSR.
(FURAN)

TIMOFEEVA, Ye.A.; SMIRNOV, V.S.; ZAYEVA, V.I.

Dehydrogenation of n-decane on oxide catalysts. Kin.i kat. 1
no.2:300-305 Jl-Ag '60. (MIRA 13:8)

(Decane)
(Dehydrogenation)
(Catalysts)

ZAYEVLOSHIN, M. N., doktor med. nauk; SHVARTSMAN, A. A.

Malignant adenomatosis of the lungs with multiple metastases into the bone system. Vrach. delo no. 6:146-148 Je '62.

1. Belgorod-Dnestrovskiy protivotuberkuloznyy dispanser i prozektura pervoy bol'nitsy.

(LUNGS--CANCER) (BONES--CANCER)

ZAYEVLOSHIN, M. N., doktor med. nauk

Syphilis of the trachea and bronchi with stenosis of the trachea.
Vest. derm. i ven. no.10:75-77 '61. (MIRA 14:12)

1. Iz prozektury Belgorod-Dnestrovskoy gorodskoy bol'nitsy
Odesskoy oblasti (glavnnyy vrach M. S. Bondarenko)

(TRACHEA-SYPHILIS) (BRONCHI-SYPHILIS)

ZAYEVOSHIN, M.N., doktor med.nauk

Cancer of the thymus. Vrach, delo no.12:123-124 D '60.
(MIRA 14:1)

1. Belgorod-Dnistrovskaya bol'nitsa Odesskoy oblasti.
(THYMUS GLAND--CANCER)

BELOBZHETSKIY, I.; ZAYEVSKAYA, N.

Analysis of annual reports helped to uncover hidden potentialities.
Fin.SSSR 22 no.6:69-75 Je '61. (MIRA 14:6)

1. Zamestitel' zaveduyushchego Baranovichskim gorfinotdelom (for Belobzhetskiy). 2. Zamestitel' zaveduyushchego Baumanskim rayfinotdelom Moskvy (for Zayevskaya).
(Auditing) (Financial statements)

ZAYEVSKAYA, N.

Problems brought forward by life. Fin. SSSR 21 no.11:59-62
N'60.
(MIRA 13:11)

1. Zamostitel' zaveduyushchego Baumanskim rayfinotdelom Moskvy.
(Moscow--Finance)

ZAYEZDNYY, A. M.

FA 51T37

URSS/Physics

Mar/Apr 1948

Waves, Electromagnetic

Mathematics - Approximation

"Approximation of Recurrent Complex Wave Curves by
Means of Monomial and Binomial Equations," A. M.
Zayezdnyy, Engr, 10 pp

"Radiofizika" Vol III, No 2

Presents empirical equations to approximate recur-
rent complex curves. These equations represent well
the actual character of constant curves. Gives
formulas to calculate the coefficients of approxima-
tion of each equation conforming to conditions of
the problem regarding exactness of approximation.

ZAYEVDNYY, A. M.
USSR/Electronics - Modulation Systems

FD-530

Card 1/1 : Pub. 90-6/13

Author : Zayezdnyy, A. M.

Title : Spectrum Width for Frequency and Phase Modulation

Periodical : Radiotekhnika 9, 47-49, May/Jun 1954

Abstract : Gives convenient formulas for calculating spectrum width for frequency and phase modulation which permit showing graphically the advantages of frequency over phase modulation.

Institution :

Submitted : March 26, 1952

Zayezdnnyy, A. M.
USSR/Radiophysics: Electric Networks, I-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35244

Author: Zayezdnnyy, A. M.

Institution: None

Title: Method of Harmonic Synthesis and Its Application to Radio Engineering Problems

Original

Periodical: Radiotekhnika, 1956, 11, No 5, 44-55

Abstract: An analytic method is proposed for harmonic synthesis, making it possible to obtain an equation for the synthesized curve in closed form. Examples are given in the application of the method to radio engineering problems: calculation of transients; calculation of characteristics of nonlinear element from a specified form of the transformation.

Card 1/1

ZAYEZDNY, A. M.,

A. M. Zayezdny, in the paper, "A Review of Measuring Methods and Diagnostics of Nonlinear Distortions" discusses symptoms for classification of measurement methods and diagnostic of nonlinear distortions, and offers criteria for evaluating different methods in their perspective.

Presented at the Eleventh Scientific and Technical Session of the Leningrad Section VTORiE (Scientific and Technical Society for Radio and Electricity) imeni A. S. Popov, dedicated to the celebration of Radio Day, Leningrad, 16-24 Apr 56.

Radiotekhnika, No. 7, 1956

S/112/59/000/013/052/067
A002/A001

Translation from: Referativnyy zhurnal, Elektrotehnika, 1959, №. 13, p. 236,
27887

AUTHOR: Zayezdnyy, A.M.

TITLE: On the Plotting of Time Process Graphs by a Given Phase Image

PERIODICAL: Sb.tr.Leningr.elektr.techn.in-ta svyazi, 1957, No.3(33), pp.77-79

TEXT: The calculation of the time process graph by a given phase image can be carried out by the method of isoclines, by the Lenard (L'yanar) method, and by the method of phase trajectory linearization. A method is given for simplifying the calculations in case the last method is used. The simplification consists in substituting the real curvilinear phase trajectory by a linearly broken trajectory. The elementary time units, corresponding to individual straight sections of the linearly broken phase trajectory, are expressed by a multiplier permitting a tabulation to be made.

I.M.K.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

ZAYEZDNYY, Aleksandr Mikhaylovich; KARANCHUK, P.G., otvetstvennyy
redaktor; VORONOVA, A.I., redaktor; RITTBERGER, N.V.,
tekhnicheskiy redaktor

[A collection of problems and exercises for a course in
"theoretical radio engineering"] Shornik zadach i uprazhnenii po
kursu "Teoreticheskaya radiotekhnika." Moskva, Gos. izd-vo lit-ry
po voprosam svyazi i radio, 1957. 470 p. (MLRA 10:5)

(Radio--Problems, exercises, etc.)

ZAYEZDNYX, A.M.

CIRCUIT THEORY

"Refinement of One Premise in Textbook Literature" by A.M. Zayezdnyy.
Radiotekhnika, No 4, April 1957, pp 80-83.

The analytical difficulties involved in the analysis of lossless circuits, such as a parallel resonant circuit or a short circuited lossless line, can be treated rigorously with the aid of the Dirac delta-function.

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- 2 -

108-5-13/13

AUTHOR ZAYEZDNYY, A.M., Ordinary Member of Radio Society.
TITLE On the precise Definition of a Theorem in Educational Literature.
(Ob utochnenii odnogo polozheniya v uchebnyy literature..
Russian)
PERIODICAL Radiotekhnika 1957, Vol 12, Nr 5, pp 80-83 (U.S.S.R.)
ABSTRACT Modern text books say that the active component of input
resistance of a parallel circuit without losses is equal to
zero. The value of the active component in the case of a
resonance frequency is not explained. As regards the value
of the reactive component in the case of resonance frequency
this is explained to be $\pm \infty$. The active component is shown
to be zero in the case of all frequencies with the exception
of the resonance point. The boundary transition is shown to
coincide with the δ -function. Therefore the active component
of the input resistance is zero in the case of all frequencies
with the exception of the resonance frequency where it is
infinite. The reactive component is shown to be zero in the
case of a random finite R(parameter) with resonance, that it
becomes equal to zero at the boundary point in the case of
random $R > 0$, and that it becomes $\pm \infty$ in the case of $R = 0$.
In textbooks the input resistance of short-cut lines with

CARD 1/2

108-5-13/13

On the precise Definition of a Theorem in Educational Literature.

no losses is said to be of purely reactive character, and that it is \pm coat points $(2n+1) \frac{\lambda}{4}$, $n = 0, 1, 2, 3, \dots$.

The expression for the active power of the input resistance of a short cut line is shown to be a δ -function at the points $y_0 = \frac{\lambda}{4}$ and $y = (2n+1) \frac{\lambda}{4}$, i.e. the active resistance at these points is not equal to zero but infinite. The reactive component, however, becomes equal to zero at the points $y = (2n+1) \frac{\lambda}{4}$.

Analogous results are achieved with uninsulated wires without losses.
(With 3 illustrations and 9 Slavic references.)

ASSOCIATION:
PRESENTED BY:
SUBMITTED:
AVAILABLE:
CARD 2/2

14.12. 1956
Library of Congress.

ZAYEZDNYY, A.M. Prinimali uchastiye; RAKHOVICH, L.M.; KLOVSKIY, D.D.;
PAK, I.H.;

[Tables and formulas of sums of series of the type $\sum_{n=1}^{\infty} e^{-rn^2} \cos nx$
and $\sum_{n=1}^{\infty} \frac{e^{-rn^2}}{n} \sin nx$] Tablitsy i formuly summ riadov vidov

$\sum_{n=1}^{\infty} e^{-rn^2} \cos nx$ i $\sum_{n=1}^{\infty} \frac{e^{-rn^2}}{n} \sin nx$. Pod red. A.M. Zaocznego.

Leningrad, 1958. 73 p. (MIRA 15:12)
(Series) (Mathematics--Tables, etc.)

ZAYEZDNYY, A.H.

Representing certain trigonometric series which are applicable to
the theory of long lines in the closed form. Izv. vs. ucheb. zav.;
radiotekh. no.2:236-258 Kr-Ap '58. (MIRA 11:5)

1. Rekomendovana kafedroy teoreticheskoy radiotekhniki Leningradskogo
elektrotekhnicheskogo instituta svyazi im. Prof. M.A. Bonch-Bruyevicha.
(Electric lines) (Fourier series—Tables, etc.)

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964030003-5

ZAYEZDNY, A.M.

Passage of rectangular pulses through an infinite line the resistance
of which depends of frequency, Elektroavias' 12 no.4:71-72 Ap '58.
(Pulse techniques (Electronics)) (MIRA 11:4)

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001964030003-5"

ZAYEZDNY, A.N.

Reply to the letter of Z.IA.Bykova and I.IU.Klugman. Radiotekhnika
13 no.2:87 p. '58. (MIRA 11:3)
(Electric circuits) (Resonance)

ZAYEZD NYY, A.M.

227/227
ZAYEZD NYY, A.M.
Independent Classification Authority Review Board Report No. 227

Study Item, VTR 305 (transmissions of the Soviet Central Research Institute for Radio Electronics and Optics) entitled:

Material Board, A. P. Gaidulin, Director; T. S. Kostylev, Head of Department; N. A. Tikhonov, Head of Department; and V. V. Zhdanov, Head of Department.

The article concerns the development of methods for calculating the characteristics of microwave oscillators.

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The article concerns the development of methods for calculating the characteristics of microwave oscillators.

ZAYEZDNYY, A.M., Doc Tech Sci -- (diss) "Harmonic synthesis
in radio engineering and electrical communications." (Mos),
1958, 20 pp (Min of Communications USSR. Mos Electrical Engineering
Inst of Communications) 150 copies. List of author's works, p 20
(11 titles) (KL, 27-58, 106)

6(7)

SOV/112-59-2-4097

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 2, p 273 (USSR)

AUTHOR: Zayezdnyy, A. M.

TITLE: Presenting Some Trigonometric Series in Closed Form That Can Be Applied to the Theory of Long Lines (Predstavleniye nekotorykh trigonometricheskikh ryadov, imeyushchikh prilozheniya v teorii dlinnykh liniy, v zamknutom vide)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Radiotekhnika, 1958, Nr 2, pp 236-258

ABSTRACT: Expressions of Fourier series in a closed form are considered; it is often used in the theory of long lines. Tables of the sums of the series in closed form are presented. Two examples are cited of using the tabulated formulae; the examples illustrate an essential simplification in analyzing results obtained from the classical theory of long lines.
From the author's summary.

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AUTHOR:

Zayezdnnyy, A. M.

SOV/108-13-2-14/15

TITLE:

Answer to the Letter of Z. Ya. Bykova and I. Yu.
Klugman (Otvet na pis'mo Z. Ya. Bykovoy i I. Yu.
Klugmana)

PERIODICAL:

Radiotekhnika, 1958, Vol. 13, Nr 2, pp. 87-97 (USSR)
Received: April 25, 1958

ABSTRACT:

The reproaches made by Bykova and Klugman are refuted here.
It is pointed out that the errors committed by them in the
letter are shown best in the investigation of lines with
 $x_{\text{input}} = q \cdot \text{tg } m_1$. They are here recommended to compute the

$\text{tg } \frac{\pi}{4}$ as $\text{tg } (\frac{\pi}{2} - \frac{\pi}{4})$ by means of a decomposition according
to the tangent-difference formula and to introduce 0
instead of $\text{tg } \frac{\pi}{2}$, but not $\pm \infty$.

On the strength of this example all doubts will be resolved.
Furthermore it is pointed out that the δ -function does not
only offer the possibility of carrying out the argumentation
more exactly, but shows a new property. I. e. the following:

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Answer to the Letter of Z. Ya. Bykova and I. Yu. Klugman SOV/ 108-13-2-14/15-

the value of R_{input} is in the case of resonance expressed analytically by means of the δ -function.

Card 2/2

AUTHOR: Zayezdnyy, A.M.

SOV/106-58-4-11/16

TITLE: Passage of Rectangular Pulses Along an Infinite Line,
 the Resistance of Which is Frequency-dependent
 (Prokhozhdeniye pryaumougol'nykh impul'sov po beskonechnoy
 linii, soprotivleniye kotoroy zavisit ot chastoty)

PERIODICAL: Elektrosvyaz', 1958, Nr 4, pp 71 - 72 (USSR)

ABSTRACT: Assuming that recurring rectangular pulses (Figure 1) are applied to the input of the infinite line, that parameters L and C are constants, G = 0 and R depends on frequency in accordance with the surface effect theory, then the problem is to find the pulse shape at any given distance from the sending end.

The input voltage is:

$$u_1(t) = \frac{4E}{\pi} \sum_{n=1}^{\infty} \frac{1}{2n-1} \sin(2n-1)\Omega t =$$

$$\text{Card 1/10} = \frac{4E}{\pi} \sum_{n=1}^{\infty} \frac{1}{k} \sin k\Omega t \left(\begin{array}{l} n = 1, 2, 3, 4 \dots \\ k = 2n - 1 \end{array} \right)$$

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Passage of Rectangular Pulses Along an Infinite Line, the Resistance of which is Frequency-dependent

and at distance x from the sending end the voltage will equal:

$$u_x(t) = \frac{4E}{\pi} \sum_{n=1}^{\infty} \frac{e^{-\beta_k x}}{k} \sin(k\Omega t - m_k x)$$

The attenuation coefficient $\beta = R/2\rho$; for example, for a two-conductor line:

$$R = \frac{2 \times 8.32}{d_{cm} 10^6} \sqrt{f_c/s} \text{ ohms/metre}$$

Thus, $\beta = \gamma \sqrt{\omega}$, $\beta_k = \gamma \sqrt{k} \sqrt{\Omega}$

where Ω is the frequency of the fundamental oscillation of the pulse train.

The phase coefficient $m = \omega/v = \omega \sqrt{LC}$; $m_k = k\Omega/v$.

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80V/106-58-4-11/16

Passage of Rectangular Pulses Along an Infinite Line, the Resistance
of which is Frequency-dependent

Substituting the values β_k and m_k and expanding the
sine of the difference, we obtain:

$$u_x(t) = \frac{4E}{\pi} \left[\sum_{n=1}^{\infty} \frac{e^{-Y\sqrt{\Omega}x}\sqrt{k}}{k} \cos \frac{\Omega}{v} kx \sin k \Omega t - \sum_{n=1}^{\infty} \frac{e^{-Y\sqrt{\Omega}x}\sqrt{k}}{k} \sin \frac{\Omega}{v} kx \cos k \Omega t \right]$$

Introducing the denotation:

$$\gamma \sqrt{\Omega} x = r ,$$

$$\frac{\Omega}{v} x = \alpha ,$$

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SOV/106-58-4-11/16

Passage of Rectangular Pulses Along an Infinite Line, the Resistance
of which is Frequency-dependent

we write:

$$u_x(t) = \frac{4E}{\pi} \left[\sum_{n=1}^{\infty} \frac{e^{-r\sqrt{k}} \cos k \alpha}{k} \sin k \Omega t - \sum_{n=1}^{\infty} \frac{e^{-r\sqrt{k}} \sin k \alpha}{k} \cos k \Omega t \right].$$

Synthesis of these series gives the solution to the problem. However, the convergence of the obtained series is slow and for calculation it is necessary to use more than ten harmonics.

To accelerate the convergence, we approximate to the law of change of the coefficients by a polynomial, containing negative powers of the argument:

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Passage of Rectangular Pulses Along an Infinite Line, the Resistance of which is Frequency-dependent

$$\frac{1}{e^{r\sqrt{n}}n} = \frac{A}{n} + \frac{B}{n^2} + \frac{C}{n^3}.$$

To determine the coefficients A, B, and C, we start with the requirement that the approximated and approximating functions coincide at points $n = 1$, $n = 4$ and $n = 9$. Solution of the obtained system of equations:

$$e^{-r} = A + B + C;$$

$$e^{-2r} = A + \frac{1}{4}B + \frac{1}{16}C;$$

$$e^{-3r} = A + \frac{1}{9}B + \frac{1}{81}C$$

gives:

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Passage of Rectangular Pulses Along an Infinite Line, the Resistance
of which is Frequency-dependent

$$A = \frac{1}{24} e^{-r} - \frac{16}{15} e^{-2r} + \frac{81}{40} e^{-3r};$$

$$B = -\frac{13}{24} e^{-r} + \frac{32}{3} e^{-2r} - \frac{81}{8} e^{-3r};$$

$$C = \frac{3}{2} e^{-r} - \frac{48}{5} e^{-2r} + \frac{81}{10} e^{-3r}.$$

The sums of the series:

$$\sum_{n=1}^{\infty} \frac{1}{k} \cos kx; \quad \sum_{n=1}^{\infty} \frac{1}{k^2} \sin kx; \quad \sum_{n=1}^{\infty} \frac{1}{k^3} \sin kx$$

are known from tables (Ref 1); the sums of series which differ from the given series only by the multipliers $\cos k\alpha$ and $\sin k\alpha$ are either known from tables or can be found by established rules (Ref 2). Thus, the problem of synthesis Card 6/10 of the new series is replaced by a problem in which only

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Passage of Rectangular Pulses Along an Infinite Line, the Resistance
of which is Frequency-dependent

tabulated series are used.

The voltage at point x can now be written:

$$u_x(t) = \frac{4E}{\pi} \left[\sum_{n=1}^{\infty} \left(A \frac{\cos k_n \alpha}{k_n} + B \frac{\cos k_n \alpha}{k_n^2} + C \frac{\cos k_n \alpha}{k_n^3} \right) \sin k_n \Omega t - \sum_{n=1}^{\infty} \left(A \frac{\sin k_n \alpha}{k_n} + B \frac{\sin k_n \alpha}{k_n^2} + C \frac{\sin k_n \alpha}{k_n^3} \right) \cos k_n \Omega t \right].$$

The sums of the first and second series can be obtained by using formulae from Refs 1 and 2. The corresponding formulae for the third series have the form:

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Passage of Rectangular Pulses Along an Infinite Line, the Resistance
of which is Frequency-dependent

$$\sum_{n=1}^{\infty} \frac{\cos k\alpha}{k^n} \sin kx = \frac{\pi}{8} (\pi - 2\alpha)x; \quad 0 < x < \alpha$$
$$\frac{\pi}{8} (\pi x - x^2 - \alpha^2); \quad \alpha < x < \frac{\pi}{2}$$
$$f\left(\frac{\pi}{2} + x\right) = f\left(\frac{\pi}{2} - x\right)$$
$$f(\pi + x) = - f(\pi - x)$$
$$\alpha < \pi/2$$

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Passage of Rectangular Pulses Along an Infinite Line, the Resistance
of which is Frequency-dependent

$$\sum_{n=1}^{\infty} \frac{\sin k \alpha}{k^3} \cos kx = \begin{cases} \frac{\pi}{8}(\pi\alpha - \alpha^2 - x^2); & 0 < x < \alpha \\ \frac{\pi}{8}\alpha(\pi - 2x); & \alpha < x < \frac{\pi}{2} \\ f\left(\frac{\pi}{2} + x\right) = -f\left(\frac{\pi}{2} - x\right); \\ f(\pi + x) = f(\pi - x); \\ \alpha < \pi/2. \end{cases}$$

Figure 2 shows the curve calculated by the formulae for
the following concrete case:

$$F = \Omega/2\pi = 144 \text{ c/s}; \quad \rho = 100 \text{ ohm}; \quad d = 1 \text{ cm}; \\ x = 100 \text{ km}; \quad r = 0.1.$$

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Passage of Rectangular Pulses Along an Infinite Line, the Resistance
of which is Frequency-dependent

The curve (full line) illustrates the "smoothing" of the
front due to surface effect (Ref 3).

There are 2 figures and 3 Soviet references.

SUBMITTED: January 20, 1958

Card 10/10 1. Pulses--Transmission 2. Frequency--Properties
3. Mathematics--Applications

S/123/61/000/007/021/026
A004/A104

AUTHORS: Klyatskin, I.G., Zayezdnyy, A.M.

TITLE: Ways of utilizing electronic computers in communication engineering

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 7, 1961, 10, abstract
7D93 ("Tr. Leningr. elektrotekhn. in-ta svyazi", 1959 (1960), no. 7,
(44), 3 - 10)

TEXT: The authors point out that nearly all problems in radio engineering
can be solved on three types of specialized computers. 1) computers for linear
problems effecting the harmonic synthesis and harmonic analysis. 2) computers for
the solving of parametric and nonlinear problems carrying out the summation of
linear combinations of any integral functions. 3) computers for the solving of
nonlinear and correlation problems, solving nonlinear differential equations on a
digital basis. There are 3 references.

O. Bachin

[Abstracter's note: Complete translation]

Card 1/1

81371
SPL482/60/000/006/012/013
A169/A026

9,7100

AUTHORS: Zayezdnyy, A.M.; Rakhovich, I.M.

TITLE: A Specialized Computer for Harmonic Synthesis and Harmonic Analysis

PERIODICAL: Elektrosvyaz', 1960, No. 6, pp. 66 - 68

TEXT: The specialized computer "Sintez" is briefly described. A more detailed description of the computer is given by the above authors in "Trudy LEIS", 1959, No. 1, pp. 93 - 100. The computer was developed at the Kafedra teoretičeskoy radiotekhniki (Department of Theoretical Radio Engineering) of the Leningradskiy elektrotekhnicheskiy institut svyazi imeni professora M.A. Bonch-Bruyevicha (Leningrad Electrical Engineering Institute of Communications imeni Professor M.A. Bonch-Bruyevich). The computer is in operation since November 1958. It is built on the basis of the decimal calculation system with binary-quinary coding. The calculation results are printed on roll paper and are fixed as graphs by a self-recording instrument. The computer consists of three bays (Fig. 1), which hold somewhat more than 500 relays and 3,000 semiconductor diodes. The current consumption is 400 w a-c from the local network. The service life of the computer is determined by the service life of the relays. The relay

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A169/A026**A Specialized Computer for Harmonic Synthesis and Harmonic Analysis**

contacts are not opened or closed under current, since the relays perform only the circuit preparation. It can be assumed that the service life of the computer will be of the order of some ten years, proper operation provided. The computer can work 24 h per day with a high load, which can be close to 100%. The computer is designed for the calculation of sums of trigonometric polynomials of the following type:

$$f(x) = \sum_{n=1}^N A_n \cos nx + \sum_{n=1}^M B_n \sin nx,$$

where for one calculation cycle the numbers N and M correspond to any of the following values: $N + M = 22, 48, 74, 100$; $N = 22, 48, 74, 100$; $M = 22, 48, 74, 100$. The factors A_n and B_n are introduced in the decimal system by four signs. The computer produces values of the functions to be synthesized in one of the following intervals: $\Delta x_1 = 18^\circ$; $\Delta x_2 = 48^\circ$; $\Delta x_3 = 108^\circ$; ($18^\circ = 2\pi/400 = 0.9^\circ$). A switching of the intervals is possible during the operation of the computer at any value of the argument. The circuits of the computer make it possible to perform the calculations in any given interval within $0 < x < 2\pi$. Besides performing operations of harmonic synthesis, which are the basic ones, the computer can

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A Specialized Computer for Harmonic Synthesis and Harmonic Analysis

perform operations of harmonic analysis according to Bessel formulas, entered into the machine in one of the following forms:

$$A_k = \frac{2}{N} \sum_{n=1}^N f\left(n \frac{2\pi}{N}\right) \cos\left(kn \frac{2\pi}{N}\right); \quad A_0 = \frac{1}{N} \sum_{n=1}^N f\left(n \frac{2\pi}{N}\right); \quad B_k = \frac{2}{N} \sum_{n=1}^N f\left(n \frac{2\pi}{N}\right) \sin\left(kn \frac{2\pi}{N}\right).$$

Here, $n = 1, 2, 3, \dots, k$ - number of decomposition harmonics; A_k and B_k - coefficients of the cosine and sine components, respectively; N - number of intervals into which the period of the function to be analyzed is divided; $f(n \cdot 2\pi/N)$ - ordinates of the curve to be analyzed in the points of decomposition. It is possible to set $N = 4, 5, 8, 10, 20, 25, 40, 50, 80$, and 100 ordinates of the curve to be analyzed. The computer performs the analysis within five to 48 min. The computer can be used for the following purposes: a) calculation of steady-state processes under periodic external effects; b) calculation of transient processes (with application of P.K. Akulyshin's method); c) calculation of amplitude-frequency characteristics from experimental transient or pulse characteristics; d) calculation of linear systems in synthetic proposition; e) calculation of optimum operating conditions in some non-linear systems. Experience

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S/106/60/000/006/012/013
A169/A026

A Specialized Computer for Harmonic Synthesis and Harmonic Analysis

has already been accumulated in solving the above problems. In addition, work is under way to develop new periodic and almost-periodic functions by tabulating series whose sums cannot be represented in closed form by known functions. The functions established in this way can be used for high-speed determinations of transient processes in long transmission lines, steady-state processes in parametric systems, etc. There are: 1 figure and 2 Soviet references.

SUBMITTED: February 27, 1959

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RAMM, G.S.; KRAYEVAYA, V.Ya.; KOVALEVA, D.I.; PAK, I.N.; ZAEZDNYY,
A.M., red.; GAL'CHINSKAYA, V.V., tekhn. red.

[Tables and formulas of sums of trigonometric series of the type

$$\sum_{n=1}^{\infty} \frac{J_n(r)}{n^2 + a^2} \sin nx \quad \text{and} \quad \sum_{n=1}^{\infty} \frac{n J_n(r)}{n^2 + a^2} \sin nx; \text{ textbook for students}]$$

Tablitsy i formuly summi trigonometricheskikh riadov vidov

$\sum_{n=1}^{\infty} \frac{J_n(r)}{n^2 + a^2} \sin nx$ i $\sum_{n=1}^{\infty} \frac{n J_n(r)}{n^2 + a^2} \sin nx$; uchebnoe posobie dlja
studentov. Pod red. A.M.Zaezdnogo. Leningrad, 1961. 91 p.
(MIRA 15:12)

1. Leningrad. Elektrotekhnicheskiy institut svyazi.
(Series) (Mathematics--Tables, etc.)

KRAYZMER, Leonid Pavlovich. Prinimali uchastiye: CHERVINSKIY, M.M.; OBO-
RENGO, A.Ye., SHILEYKO, R.I.; ZAYEZDNYY, A.M., retsenzent; UL'YANOV,
G.K., red.; SOBOLEVA, Yo.M., tekhn. red.

[Discrete information storage devices] Ustroistva khranenia diskret-
noi informatsii. Moskva, Gos.energ.izd-vo, 1961. 359 p. (MIRA 14:12)
(Magnetic memory (Calculating machines))
(Pulse techniques (Electronics))

ZAYEVDNYY, Aleksandr Mikhaylovich; KLYATSKIN, I.G., retsenzent; KHAVIN,
V.P., retsenzent; SOBOLEVA, Ye.M., tekhn. red.

[Harmonics synthesis in radio engineering and electrical communications] Garmonicheskii sintez v radiotekhnike i elektronike. Moskva, Gos.energ.izd-vo, 1961. 535 p. (MIRA 15:2)
(Radio) (Telecommunication) (Harmonic analysis)

39903
S/044/62/000/007/079/100
C111/C333

9.3230

AUTHORS: Zayezdnyy, A. M., Gorinshteyn, A. M.

TITLE: The use of the method of generalized summation of series
in constructing communication channels

PERIODICAL: Referativnyy zhurnal, Matematika, no. 7, 1962, 57,
abstract 7V250. ("Issled. po sovrem. probl. konstruktiv.
teorii funktsiy", M., Fizmatgiz, 1961, 353-358)

TEXT: If at the entrance of a linear filter there appears the
signal $A_1(\omega) \sin [\omega t + \Psi_1(\omega)]$, then there appears at the output
the answer $A_2(\omega) \sin [\omega t + \Psi_2(\omega)]$, where $K(\omega) = \frac{A_2(\omega)}{A_1(\omega)}$.

$\varphi(\omega) = \Psi_2(\omega) - \Psi_1(\omega)$ are the amplitude and phase characteristics of
the filter. If the input signal is not harmonic and if its spectral
density outside the finite frequency range $[\omega_1, \omega_2]$ is equal to zero,
then -- in the absence of frequency distortions -- it is required that
 $K(\omega) = \text{const.}$, $\varphi(\omega) = -\omega t_d$, $\omega_1 \leq \omega \leq \omega_2$, $t_d = \text{const.}$ Let $K(\omega) \equiv 0$
for $0 \leq \omega < \omega_{\max}$, $\varphi(\omega) = -\omega t_d$. Let a periodic sequence of rectangular

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 impulses having a duration equal to the half period $T = \frac{2\pi}{\Omega}$ appear at
 the entrance to the filter. Then the output signal is

$$q(t) = K(0) \left[1/\omega + 1/n \sum_{n=1}^{1/2(N+1)} \frac{K[(2n-1)\Omega]}{K(0)} X \right. \\ \left. \times \sin((2n-1)(t - t_0)\Omega) \right] \quad (1)$$

where N is proportional to ω_{\max}/Ω . If $K(\omega) = \text{const.}$ is chosen, then
 the plane portion of the impulse is distorted because of the Gibbs
 phenomenon, whereby this distortion does not become smaller if ω_{\max}
 increases. The problem arises: What form must $K(\omega)$ have so that the
 diminution of the distortion of the plane portion can be carried out
 without distorting the form to any extent. The authors suggest that
 known methods of generalized series summation be used to solve this
 problem, whereby the peaks are smoothed out. Given are illustrations
 of the impulse form which using concrete methods on the series (1).

[Abstracter's note: Complete translation.
 Card 2/2]

B107/B212

9.3210

AUTHOR:

Zayezdnyy, A. M., Member of the Society of Radio Engineering
and Electric Communication

TITLE:

Investigation of linear systems by Fourier series

PERIODICAL:

Radiotekhnika, v. 16, no. 2, 1961, 34-45

TEXT: In recent years several papers have been published which deal with new methods to calculate steady processes exposed to complicated periodic effects. This paper is based on the application of a Fourier analysis to periodic effects. The author makes use of the following:
 1) A new method has been suggested to determine particular periodic solutions of linear differential equations. A detailed description of this method can be found in A. M. Zayezdnyy, Trudy nauchno-tehnicheskoy konferentsii LEIS, 1960, No. 2.

$$\frac{d^m y}{dx^m} + a_{m-1} \frac{d^{m-1} y}{dx^{m-1}} + \dots + a_1 \frac{dy}{dx} + a_0 y = \frac{a_0}{2} + \sum_{n=1}^{\infty} (a_n \cos nx + b_n \sin nx) \quad (1)$$

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represents an inhomogeneous differential equation of m th order, its right side is given as a periodic function. The particular periodic solution is of the form

$$y = \frac{a_0}{2a_0} + a_0 z(x) - a_1 z'(x) + a_2 z''(x) + \dots + (-1)^{m-1} a_{m-1} z^{(m-1)}(x) + (-1)^m z^{(m)}(x). \quad (2)$$

$$z(x) = \sum_{n=1}^{\infty} \frac{a_n \cos nx + b_n \sin nx}{|p(j_n)|^s}, \quad (3)$$

and $p(j_n)$ denote the characteristic operator of the differential equation.
 2) Representation of Fourier series in shortened form has been examined extensively; for a larger number of series the sums have been tabulated. Linear systems with constant parameters which are exposed to an effect that consists of functions of the linear combination t^{α}_{ept} can always be expressed in series. The following 5 formulas are used to represent them shortened.

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$$\sum_{n=1}^{\infty} \cos nx = \pi \delta_{2a}(x) - \frac{1}{2}, \quad (\text{AA1}) \quad (4)$$

$$\sum_{n=1}^{\infty} \frac{1}{n} \sin nx = \frac{\pi}{2} - \frac{\pi}{2}, \quad (\text{БА2}) \quad (5)$$

(0 < x < 2π)

$$\sum_{n=1}^{\infty} \frac{n}{n^2 - a^2} \sin nx = -\frac{\pi}{2 \sin a \pi} \sin a(x - \pi), \quad (\text{БД2}) \quad (6)$$

(0 < x < 2π; a — нецелое число)

$$\sum_{q=1}^{\infty} \frac{q}{q^2 - a^2} \sin qx = \frac{\pi}{4} \cos ax, \quad (\text{БД'4}) \quad (7)$$

(0 < x < π; a — чётное число)

$$\sum_{p=2}^{\infty} \frac{p}{p^2 - a^2} \sin px = \frac{\pi}{4} \cos ax, \quad (\text{БД'10}) \quad (8)$$

(0 < x < π; a — нечётное число)

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